

FIG. 1

**FIG. 2**

15		19		25		17		21		27	
INSTRUCTION POINTER		REDUNDANCY PREDICTOR		INSTRUCTION		COMMENTS					
341B		NOT REDUNDANT		MOVE AX, VALUE1		:Write to AX					
341D		NOT REDUNDANT		ADD BX, VALUE2							
3420		REDUNDANT		ADD AX, BX		:Use AX and Write to AX					
3422		NOT REDUNDANT		CMP DX, CX							
3424		NOT REDUNDANT		JNL BRANCH2							
3426		NOT REDUNDANT		MOV AX, CX		:Write to AX Without Using Previous Value					

INSTRUCTION	WRITTEN ON	USED	USE COUNT	INT. INSTR.	PRIORITY
ADD AX, BX	NOT WRITTEN ON	NOT USED	0	D.C.	LOW
ADD BX, VALUE2	NOT WRITTEN ON	USED	1	1	HIGH
MOV AX, VALUE1	WRITTEN ON	USED	1	2	HIGH
	WRITTEN ON	NOT USED			REDUNDANT

CMP DX, CX

FIG. 4

31	INSTRUCTION	WRITTEN ON	USED	PRIORITY	8
	MOV AX, VALUE1	NOT WRITTEN ON	NOT USED	LOW	

**FIG. 3A**

16 18 20 22

32	31	INSTRUCTION	WRITTEN ON	USED	PRIORITY	8
		ADD BX, VALUE2	NOT WRITTEN ON	NOT USED	LOW	
31		MOV AX, VALUE1	NOT WRITTEN ON	NOT USED	LOW	

**FIG. 3B**

16 18 20 22

33	32	31	INSTRUCTION	WRITTEN ON	USED	PRIORITY	8
			ADD AX, BX	NOT WRITTEN ON	NOT USED	LOW	
32	31		ADD BX, VALUE2	NOT WRITTEN ON	USED	HIGH	
			MOV AX, VALUE1	WRITTEN ON	USED	HIGH	

**FIG. 3C**

16 18 20 22

34	33	32	31	INSTRUCTION	WRITTEN ON	USED	PRIORITY	8
				CMP DX, CX	WRITTEN ON	USED	HIGH	
33	32	31		ADD AX, BX	NOT WRITTEN ON	NOT USED	LOW	
				ADD BX, VALUE2	NOT WRITTEN ON	USED	HIGH	
32	31			MOV AX, VALUE1	WRITTEN ON	USED	HIGH	

**FIG. 3D**

16 18 20 22

35	34	33	32	31	INSTRUCTION	WRITTEN ON	USED	PRIORITY	8
					JNL BRANCH2	NOT WRITTEN ON	NOT USED	LOW	
34	33	32	31		CMP DX, CX	WRITTEN ON	USED	HIGH	
					ADD AX, BX	NOT WRITTEN ON	NOT USED	LOW	
33	32	31			ADD BX, VALUE2	NOT WRITTEN ON	USED	HIGH	
					MOV AX, VALUE1	WRITTEN ON	USED	HIGH	

**FIG. 3E**

16 18 20 22

	INSTRUCTION	WRITTEN ON	USED	PRIORITY
36	MOV AX, CX	NOT WRITTEN ON	NOT USED	LOW
35	JNL BRANCH2	NOT WRITTEN ON	NOT USED	LOW
34	CMP DX, CX	WRITTEN ON	USED	HIGH
33	ADD AX, BX	WRITTEN ON	NOT USED	REDUNDANT
32	ADD BX, VALUE2	NOT WRITTEN ON	USED	HIGH
31	MOV AX, VALUE1	WRITTEN ON	USED	HIGH

FIG. 3F

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22

	INSTRUCTION	WRITTEN ON	USED	PRIORITY
36	MOV AX, CX	NOT WRITTEN ON	NOT USED	LOW
35	JNL BRANCH2	NOT WRITTEN ON	NOT USED	LOW
34	CMP DX, CX	WRITTEN ON	USED	HIGH
33	ADD AX, BX	WRITTEN ON	NOT USED	REDUNDANT
32	ADD BX, VALUE2	NOT WRITTEN ON	USED	HIGH

FIG. 3G

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	INSTRUCTION	WRITTEN ON	USED	PRIORITY
36	MOV AX, CX	NOT WRITTEN ON	NOT USED	LOW
35	JNL BRANCH2	NOT WRITTEN ON	NOT USED	LOW
34	CMP DX, CX	WRITTEN ON	USED	HIGH
33	ADD AX, BX	WRITTEN ON	NOT USED	REDUNDANT

FIG. 3H

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22

	INSTRUCTION	WRITTEN ON	USED	PRIORITY
36	MOV AX, CX	NOT WRITTEN ON	NOT USED	LOW
35	JNL BRANCH2	NOT WRITTEN ON	NOT USED	LOW
34	CMP DX, CX	NOT WRITTEN ON	USED	HIGH

FIG. 3I

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22

	INSTRUCTION	WRITTEN ON	USED	PRIORITY
36	MOV AX, CX	NOT WRITTEN ON	NOT USED	LOW
35	JNL BRANCH2	NOT WRITTEN ON	NOT USED	LOW

FIG. 3J

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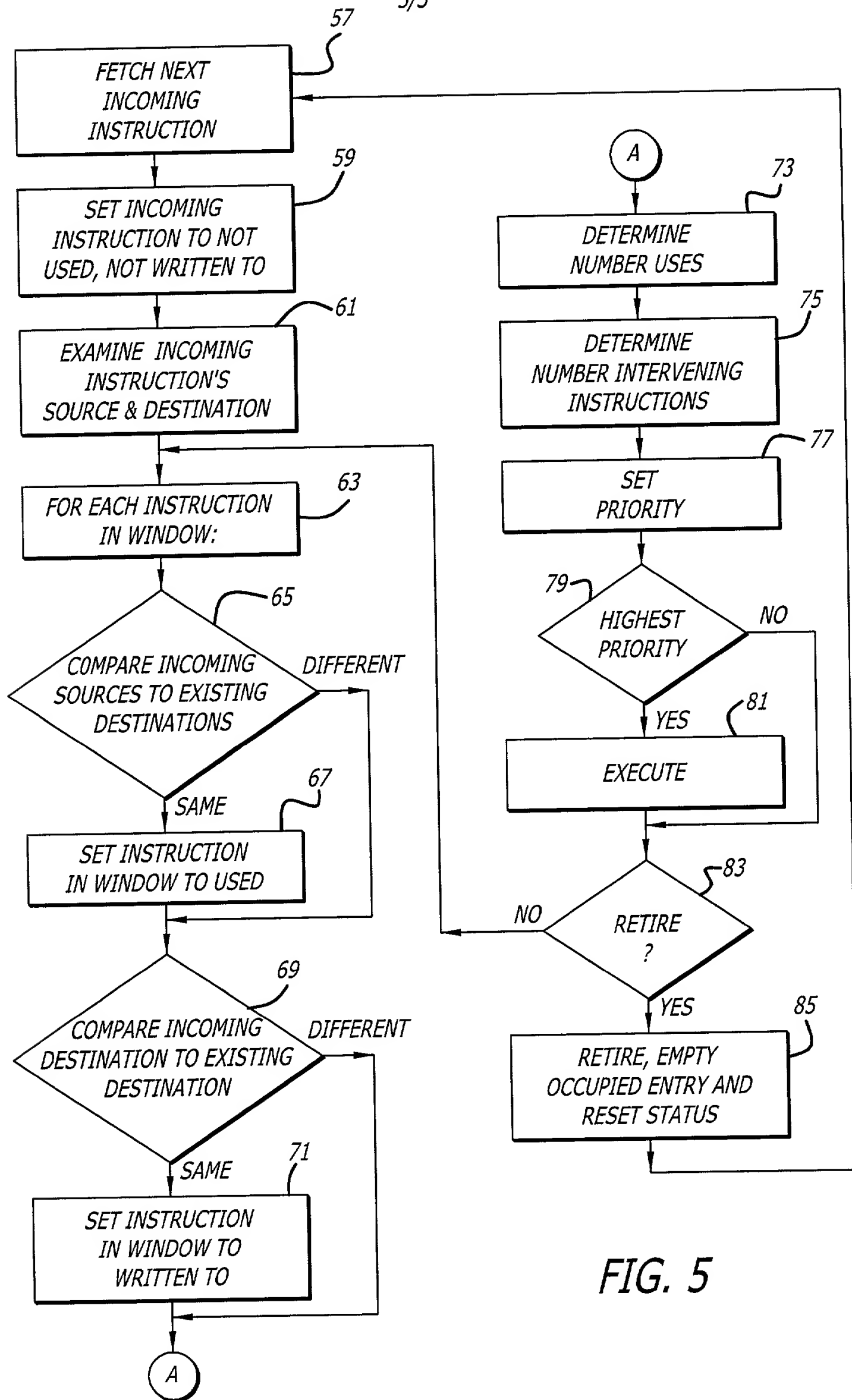


FIG. 5